

REMARKSStatus of the Application

This amendment is filed in response to the office action dated October 15, 2008. Claims 1-11, 13-18, 20-26, and 28-33 were pending and were rejected. By way of this response, claims 1, 11, 18, and 26 are amended. Thus, claims 1-11, 13-18, 20-26, and 28-33 are pending and at issue.

Applicant Initiated Interview of December 9, 2008

The applicants' representative, Andrew R. Smith, conducted an interview with Examiner Ben Wang on December 9, 2008 to discuss the rejections of claims 1-30. The parties discussed the application of U.S. Patent Application Pub. No. 2004/0010785 to Chauvel ("Chauvel") to the claims and, in particular, the relationship between the runtime optimization techniques described in Chauvel and compile time optimization as generally recited by claims 1, 11, 15, 18, 22, and 26. The examiner agreed that runtime optimization, as disclosed by Chauvel, cannot teach or suggest compile time optimization, as generally recited by at least claims 1, 11, 15, 18, 22, and 26. The examiner also agreed that Chauvel generally teaches determining how many times a code segment is executed in a given code segment rather than determining how many times to interpretively execute a given section as generally recited in claims 11, 18, and 26. Further, the examiner agreed that Chauvel discusses evaluating the execution power level of the repeated code, rather than the compile power used to determine how many times to execute a code segment as generally recited in claims 11, 18, and 26.

Rejections under 35 U.S.C. §103

Claims 1-30 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Pub. No. 2004/0010785 to Chauvel et al. (hereinafter "Chauvel") in view of U.S. Patent Application Pub. No. 2004/0015914 to Renouf et al. (hereinafter "Renouf"). Applicants respectfully traverse this rejection.

“To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.” *MPEP* §2143.03, citing *In re Royka*, 180 USPQ 580 (CCPA 1974). As will be explained further with reference to specific claims, the Office Action failed to establish that the alleged combination of Chauvel and Renouf teaches, discloses, or suggests each and every element of each of claims 1-30.

Claim 1

Claim 1 is generally directed to a method that includes “compiling [a] plurality of non-native instructions [in a selected one of a source form and an intermediate form] to generate object code for the non-native instructions, wherein compiling the plurality of non-native instructions (e.g., source or intermediate form) includes replacing an object code segment from the generated object code with an alternative object code segment if the alternative object code segment improves at least a selected one of a power level required and an amount of energy required to execute the generated object code in a target execution environment.” At least this element is not disclosed or suggested by the alleged combination of Chauvel and Renouf.

The Office Action admits that Chauvel does not disclose this element, but then alleges that such element is disclosed by Renouf. But Renouf describes replacing fix-up code with appropriate machine-dependent instructions on binding or at runtime (see [0123]). As generally recited in claim 1, replacing object code with an alternative object segment is performed while compiling the non-native instructions into object code. Replacing fix-up code upon binding or at runtime as disclosed by Renouf cannot teach or suggest the compile time replacement generally recited in claim 1. At least for these reasons, the alleged combination of Chauvel and Renouf does not render claim 1 unpatentable.

Claims 2-10, 15-17, 22-25

With regard to claims 2-10, which depend from claim 1, Applicants respectfully submit that the alleged combination of Chauvel and Renouf does not render claims 2-10 unpatentable at least for the same reasons as claim 1.

With regard to claims 15-17 and 22-25, Applicants respectfully submit that the alleged combination of Chauvel and Kramskoy does not render claims 15-17 and 22-25 unpatentable at least for reasons similar to those discussed above with respect to claim 1.

Claim 11

Claim 11 is generally directed to a method that includes “determining an initial number of times to interpretively execute the non-native instructions based at least in part on one or more of an expected power level required to perform an average compile or an expected energy required to perform the average compile.” At least this element is not disclosed or suggested by the alleged combination of Chauvel and Renouf.

Instead, Chauvel generally describes creating a runtime profile for the execution of compiled code that includes, among other things, relating power consumption to the number of times an individual operation appears within the code. Chauvel does not disclose or suggest determining or using an expected power level or an expected energy required to perform compilation. Additionally, Renouf does not disclose profiling an application at all.

Rather than merely counting the number of times an operation is repeated (i.e., appears) within an application, as generally disclosed by Chauvel, claim 11 generally recites determining how many times to execute an application based on one or more of an expected power level to perform an average compile or an expected energy required to perform the average compile. Counting how many times an operation appears within an application as generally disclosed by Chauvel does not teach or suggest basing a number of times to interpretively execute non-native instructions on the power level or energy required for an average compile as generally recited in claim 11.

At least for these reasons, the alleged combination of Chauvel and Renouf does not render claim 11 unpatentable.

Claims 13, 14, 18, 20, 21, and 26-33

With regard to claims 13 and 14, which depend from claim 11, Applicants respectfully submit that the alleged combination of Chauvel and Renouf does not render claims 13 and 14 unpatentable at least for the same reasons as claim 11.

With regard to claims 18, 20, 21, and 26-33, Applicants respectfully submit that the alleged combination of Chauvel and Renouf does not render claims 18, 20, 21, and 26-33 unpatentable at least for reasons similar to those discussed above with respect to claim 11.

Conclusion

In view of the above, Applicants submit that the pending application is in condition for allowance and an early action so indicating is respectfully requested.

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Respectfully submitted,

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